

Claims

1. An ink cartridge comprising an ink tank, the ink tank comprising a first chamber, the cartridge including an air vent and an ink supply outlet both opening into the first chamber, the cartridge further including means defining a volume in which air and ink can collect to form a buffer against expansion or contraction of ink and air in the first chamber to prevent leakage from the cartridge.
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2. An ink cartridge as claimed in claim 1, wherein the ink cartridge includes a second chamber connected for fluid communication with the first chamber.
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3. An ink cartridge as claimed in claim 2, wherein the first and second chambers are connected for fluid communication at a low level.
- 15 4. An ink cartridge as claimed in claim 3, wherein the cartridge includes means defining a passage from the first chamber to the second chamber.
5. An ink cartridge as claimed in claim 4, wherein the entrance to the passage from the first chamber is at a higher level than the exit from the passage into the second chamber.
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6. An ink cartridge as claimed in claim 4 or claim 5, wherein part of the passage is above the entrance to the passage from the first chamber.
- 25 7. An ink cartridge as claimed in claim 4, 5 or 6, wherein the exit from the passage into the second chamber is on the far side of the second chamber from the first chamber.
8. An ink cartridge as claimed in any of claims 4 to 7, wherein the passage extends upwardly from the entrance thereto.
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9. An ink cartridge as claimed in any of claims 4 to 8, wherein the passage includes a part which is above the entrance to the passage from the first chamber.

10. An ink cartridge as claimed in any of claims 4 to 9, wherein the passage includes a part which is above the exit from the passage into the second chamber.

11. An ink cartridge as claimed in any of claims 4 to 10, wherein the passage forms a volume in which air can collect.

10 12. An ink cartridge as claimed in claim 4, wherein the passage includes a part defining a volume in which air can collect, the volume defined by the part being above the entrance to the passage from the first chamber and above the exit from the passage into the second chamber.

15 13. An ink cartridge as claimed in claim 12, wherein the exit from the passage into the second chamber is on the far side of the second chamber from the first chamber.

14. An ink cartridge as claimed in any of claims 4 to 13, wherein the passage extends to substantially the same height as the first and/or second chamber.

20 15. An ink cartridge as claimed in any of claims 4 to 14, wherein the passage extends above the second chamber.

25 16. An ink cartridge as claimed in any of claims 4 to 15, wherein the passage extends over the top of the second chamber and down the opposite side of the second chamber from the first chamber to the exit into the second chamber.

17. An ink cartridge as claimed in any of claims 4 to 16, wherein the wall of the second chamber defines at least part of one side of the passage.

30 18. An ink cartridge as claimed in any of claims 4 to 17, wherein the outer wall of the tank defines at least part of one side of the passage.

19. An ink cartridge as claimed in any of claims 4 to 18, wherein the second chamber includes at least one partition, the partition having an aperture at a low level.
20. An ink cartridge as claimed in claim 19, wherein the aperture is below the level
5 of the passage exit into the second chamber.
21. An ink cartridge as claimed in any of claims 4 to 20, wherein the passage exit is above the level of, or at the same level as, the connection between the first and second chambers.
- 10 22. An ink cartridge as claimed in of claims 4 to 21, wherein a capillary active member covers the fluid communication connection between the first and second chambers.
- 15 23. An ink cartridge as claimed in claim 12, wherein the entrance to the passage from the first chamber is below the level of the exit from the passage to the second chamber.
- 20 24. An ink cartridge as claimed in claim 12 or claim 23, wherein a wall is provided to define one side of the second chamber, the wall defining a lower aperture which is the said connection for fluid communication between the first and second chambers, and an upper aperture, which is the exit from the passage into the second chamber.
- 25 25. An ink cartridge as claimed in claims 12, 23 or 24, wherein a wall is provided to define one side of the passage, the entrance to the passage from the first chamber being formed by the lower edge of the wall, the lower edge of the wall being above the level of the said connection for fluid communication between the first and second chambers.
- 30 26. An ink cartridge as claimed in any of claims 12, 23, 24 and 25, wherein the passage is elongate and upright.

27. An ink cartridge as claimed in any of claims 4 to 26, wherein a capillary active member covers the entrance to the passage.

28. An ink cartridge as claimed in any of claims 4 to 27, wherein a capillary active member blocks the ink supply outlet.

29. An ink cartridge as claimed in any of claims 4 to 28, wherein a capillary active member is provided in the first chamber and covers at least one of the fluid communication connection between the first and second chambers, the entrance to the passage and the ink supply outlet.

30. An ink cartridge as claimed in any of claims 4 to 29, wherein a capillary active member is provided in the first chamber and covers the fluid communication connection between the first and second chambers and the ink supply outlet.

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31. An ink cartridge as claimed in any of claims 4 to 30, wherein a capillary active member is provided in the first chamber and covers the ink supply outlet and the entrance to the passage.

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32. An ink cartridge substantially as claimed herein with reference to Figures 1 to 11 or 12 to 23.